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Jan 1, 1950

MONTANA
Aeronautical Chart

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STATE DOCUMENTS COLLECTION

Fly The Big Sky Country

Welcome to the Big Sky Country!

We certainly hope this map will assist you in many safe flights over the magnificent expanse of Montana.

We welcome you to the state and encourage you to stay awhile to explore Montana's amazing array of scenic and recreational areas.

You will find modern airports, beautiful scenery, fish in clear streams, great snow on the ski slopes, comfortable accommodations and the friendliest people in the West.

Again, welcome and good flying!

TED SCHWINDEN, GOVERNOR
STATE OF MONTANA

MICHAEL D. FERGUSON, ADMINISTRATOR
AERONAUTICS DIVISION

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FILE A FLIGHT PLAN

FLIGHT PLAN

CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

FAA Form 7233-1 (5-67)

SPECIAL EQUIPMENT SUFFIX

/X	No transponder	/D	DME, no transponder
/T	Transponder with no altitude encoding capability	/B	DME, transponder with no altitude encoding capability
/U	Transponder with altitude encoding capability	/A	DME, transponder with altitude encoding capability
		/C	RNAV, transponder with no altitude encoding capability
		/I	RNAV, transponder with altitude encoding capability
		/W	RNAV, no transponder

FAA FLIGHT SERVICE STATIONS AND NATIONAL WEATHER SERVICE OFFICES

FLIGHT WEATHER			FSS
BILLINGS			259-4545
TOLL FREE NUMBER			800 824-7706
BOZEMAN			388-4242
BUTTE			494-3004
CUT BANK			873-4522
GLASGOW	288-4042	BIL	800 824-7706
GREAT FALLS			761-7110
TOLL FREE NUMBER			800 874-4202
HAVRE	265-6424	GTF	800 874-4202
HELENA	442-7312	GTF	800 874-4202
KALISPELL	755-4829	GTF	800 874-4202
LEWISTOWN			538-3639
LIVINGSTON			222-2411
MILES CITY			232-1503
MISSOULA			721-2576
TOLL FREE NUMBER			800 641-0078

LIGHT SIGNAL PROCEDURES FOR AIRPORT TRAFFIC CONTROL

Signals from a portable traffic control light shall mean the following:

COLOR AND TYPE OF SIGNAL	ON THE GROUND	IN FLIGHT
Steady Green	Clear for takeoff	Cleared to land
Flashing Green	Cleared to taxi	Return for landing(to be followed by steady green at proper time)
Steady Red	Stop	Give way to other aircraft and continue circling
Flashing Red	Taxi clear of landing area (runway) in use	Airport unsafe - do not land
Flashing White	Return to starting point on airport	(No Assigned Meaning)
Alternating Red and Green	General warning signal - Exercise extreme caution	

MORSE CODE AND PHONETIC ALPHABET

A—ALFA	M—MIKE	Y—YANKEE	
B—BRAVO	N—NOVEMBER	Z—ZULU	
C—CHARLIE	O—OSCAR	0—ZE-RO	
D—DELTA	P—PAPA	1—WUN	
E—ECHO	Q—QUEBEC	2—TOO	
F—FOXTROT	R—ROMEO	3—TREE	
G—GOLF	S—SIERRA	4—FOW-er	
H—HOTEL	T—TANGO	5—FIFE	
I—INDIA	U—UNIFORM	6—SIX	
J—JULIETT	V—VICTOR	7—SEV-en	
K—KILO	W—WHISKEY	8—AIT	
L—ELIMA	X—KRAY	9—NIN-er	

DIRECTIONAL ALTITUDE

VFR ALTITUDES/FLIGHT LEVELS CONTROLLED AND UNCONTROLLED AIRSPACE

UNDER VFR More than 3,000' above the surface
Below 18,000 feet

ALTIMETER SETTINGS

AT OR ABOVE 18,000 FT MSL—use standard altimeter setting (29.92 Hg)

BELOW 18,000 FT MSL—use station altimeter setting (QNH)

CRUISING ALTITUDES/FLIGHT LEVELS

1. VFR altitudes or flight levels become effective above 3,000 ft. AGL.
2. IFR in controlled airspace, maintain altitudes or flight levels assigned by ATC.
3. IFR altitudes or flight levels in uncontrolled airspace are effective from surface upward.
4. Continental control area is controlled airspace as and above 14,500 ft, excluding:
   a. The airspace less than 1,500 ft. above the surface of the earth.
   b. Prohibited and restricted areas other than those listed in Federal Aviation Regulations 71.151
5. Positive control area is controlled airspace from 18,000 ft. MSL to and including FL 600. IFR FLIGHT PLAN, TRANSPONDER and 2 WAY RADIO REQUIRED WITHIN THIS AREA.

For complete information refer to Federal Aviation Regulations 71.9, 71.15, 91.109 and 91.121.

VISUAL EMERGENCY SIGNALS

HOW TO USE THEM

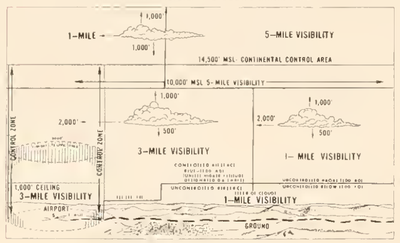
If you are forced down and are able to attract the attention of the pilot of a rescue airplane, the body signals illustrated on the page can be used to transmit messages to him as the circles over you fly/pass. Stand in the open when you make the signals. Be sure that the background is seen from the air, is not confusing. Go through the motions slowly and repeat each signal until you are positive that the pilot understands you.

NEED MEDICAL ASSISTANCE—URGENT
Used only when life is at stake
ALL OK—DO NOT WAIT
Wave one arm overhead
CAN PROCEED SHORTLY—WAIT IF PRACTICABLE
One arm horizontal
NEED MECHANICAL HELP OR PARTS—LONG DELAY
Both arms horizontal
DO NOT ATTEMPT TO LAND HERE
Both arms waved across face
LAND HERE
Both arms forward here partially squatting and point in direction of landing/flyway
USE DROP MESSAGE
Make a throwing motion
OUR RECEIVER IS OPERATING
Cup hands over ears
NEGATIVE (NO)
White cloth waved horizontally
AFFIRMATIVE (YES)
White cloth waved vertically
PICK US UP—PLANE ABANDONED
Both arms vertical
AFFIRMATIVE (YES)
Our nose at plane several times
NEGATIVE (NO)
Fatigue/plane

RECREATION AIRPORTS

Manned 24 hr. & Unmanned Strip	Quick Service	Courtesy Car, Taxi, Loaner Car, Limousine Service or Bicycles	Facilities for Handling Commercial & Private Aircraft	Complete Service for Pilot & Passengers	Overnight Accommodations on Field or Within Walking Distance	AIRPORT	LAT.	LONG.
△		⊛			▲	BABB	48-51	113-26
	★				▲	BENCHMARK	47-28	112-50
	★					BOULDER	46-13	112-07
△	★	⊛			✳	BOZEMAN	45-46	111-10
		⊛	◆▶			COLUMBUS	45-38	109-15
	★	⊛	◆▶			ENNIS	45-21	111-44
		⊛	◆▶			FORTINE	48-48	114-54
△						FORT SMITH	45-19	107-55
△		⊛	◆▶			GARDINER	45-03	110-44
△		⊛			✳	KALISPELL	48-10	114-17
		⊛				LEWISTOWN	47-03	109-28
	★	⊛	◆▶			LINCOLN	46-58	112-39
		⊛	◆▶			LIVINGSTON	45-42	110-26
			◆▶		▲	MEADOW CREEK	47-51	113-25
		⊛			✳	MISSOULA	46-55	114-05
	★		◆▶			9 QUARTER CIRCLE	45-04	111-17
		⊛	◆▶			POLSON	47-41	114-11
		⊛			✳	RED LODGE	45-11	109-17
			◆▶		▲	ROCK CREEK	46-43	113-39
			◆▶		▲	SCHAFER	48-05	113-15
	★	⊛			▲	SEELEY LAKE	47-11	113-27
			◆▶		▲	SPOTTED BEAR	47-58	113-34
			◆▶		▲	TIBER DAM	48-19	111-07
			◆▶		▲	TOWNSEND-CANYON FERRY	46-25	111-34
		⊛	◆▶			TROY	48-29	115-54
		⊛	◆▶		▲	VALIER	48-18	112-15
△	★	⊛	◆▶		▲	WEST YELLOWSTONE	44-41	111-07
		⊛	◆▶			WISDOM	45-35	113-28
			◆▶		▲	WOLF CREEK	46-57	111-58

VFR CHART VISIBILITY & CLOUD MINIMUMS



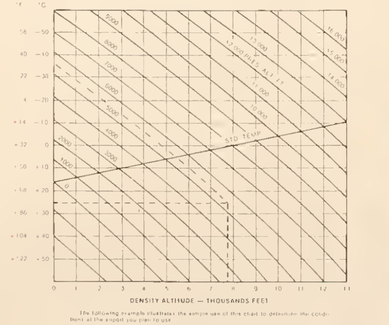
AIRMARK LOOKOUT TOWERS

		LAT.	LONG.			LAT	LONG
23	Webb Mountain	48-49'	115-22'	211	Falls Point	47-12	112-54
29	Swift Current	48-48	113-45	214	Thompson Peak	47-11	114-54
32	Mountain Marston	48-46	114-48	216	Double Arrow	47-10	113-32
37	Cyclone	44-44	114-19	224	Stark Mountain	47-05	114-24
47	Big Creek Baldy	48-38	115-35	229	Landowner Mtn	47-05	114-34
51	Mountain Brown	48-38	113-50	234	Williams Peak	46-58	114-56
56	Werner	48-35	114-36	237	Monument	47-00	111-05
74	Loneman Peak	48-28	113-45	239	Hunter	46-56	113-25
77	Johnson Peak	48-27	114-41	247	Granite Butte	46-52	112-35
97	Firefighter	48-20	113-53	248	Porphyry	46-51	110-45
111	Red Plume	48-09	113-18	251	Union	46-48	113-24
131	Gem	47-55	115-55	252	Hogback	46-50	111-43
134	Mission	47-54	113-51	253	White Mountain	46-47	114-39
135	Spotted Bear	47-54	113-27	255	Westfork Butte	46-44	114-25
139	Richard	47-50	115-40	267	St Maries Pk	46-31	114-14
154	Bear Top	47-48	112-52	292	Highland	45-46	112-31
156	Sex Peak	47-44	115-40	293	Bare Cone	45-43	114-26
160	Priscilla Peak	47-42	115-10	310	Horse Butte	44-45	111-12
162	Mud Lake	47-38	113-18	312	Cinnamon	45-08	111-14
163	Driveway	47-35	115-35	C3	Pokes Jim Butte	45-20	106-22
165	Baldy	47-38	114-50	C4	Diamond Butte	45-15	105-56
172	Clooney	47-32	113-38	C5	Yager Butte	45-28	106-02
178	Patrol Mountain	47-27	112-54	C6	Lisdom Butte	45-42	105-59
184	Jumbo	47-23	113-07	C7	Tri Point	45-38	104-12
191	UP UP Mountain	47-20	115-20				

DENSITY ALTITUDE CHART

LEARN TO USE THIS CHART — POST IN PLANE

Operational altitude is the calculated altitude at the air at which the aircraft is flown. Aircraft operation, as a result, may be at an altitude greater or less than the actual altitude above Sea Level.



The following example illustrates the sample use of this chart to determine the condition at the airport you plan to use.

Select the actual altitude of the airport to be used on its diagonal (see marked "Field Altitude (Example, 1,500 ft)). Next, select the temperature (Example, 32°F.) for the temperature line (to the right until it crosses the diagonal line (Field Altitude). From the point where these two lines cross, follow a line to the bottom of the chart and obtain the

MOUNTAIN FLYING

GENERAL

Always remember that you are flying in a huge and very sparsely populated territory. If you have a problem, it may be some time before anyone knows about it. You will be landing on fields where there is no one to help you in case of trouble and it is a long walk out. Do not take chances.

Navigation is critical — have the necessary maps and know where you are. Pilotage is the means of navigation you will be relying on.

The horizon in the mountains is difficult to determine. If you use the tops of the mountains for the horizon, the aircraft will be in a constant climb attitude. Use your altitude indicator and check the airspeed and altimeter to confirm your attitude.

1. Make sure that your proficiency level and your aircraft meet the special demands of your planned flight.
2. If you are not sure of your capabilities, take some dual instruction from a flight instructor experienced in mountain flying.
3. Keep your aircraft as light as possible.
4. Be familiar with your planned route of flight and destination airport. Check the field conditions with FSS or experienced local pilots. Familiarize yourself in advance with the field length, elevation and any special approach/departure procedures.
5. Obtain a thorough weather briefing. A forecast of marginal VFR frequently translates to IFR in the mountains.
6. Plan your trip for early morning or evening hours. Turbulence is usually greatest from 10:00 a.m. to 6:00 p.m.
7. Stay out of the mountains if the forecast winds aloft exceed 25 knots below 12,000 MSL. The wind velocity can double in the vicinity of mountain passes and canyons. NEVER fly up a blind or narrow canyon.
8. Mountain winds follow contours much like a stream. The air on the lee (downwind) side of a mountain may be extremely turbulent. Fly on the upwind side of a canyon whenever possible.
9. Cross-check your instruments and attitude indicator frequently. Visual horizons in the mountains may be illusory.
10. Maintain your airspeed in downdrafts and don't panic. Be able to turn to lower terrain at all times.
11. Approach ridges at a 45° angle. If caught in a downdraft you can not turn away toward lower terrain.
12. Be courteous to those on the ground who are enjoying a wilderness experience. Maintain sufficient altitude — 2,000 AGL is suggested over wilderness areas.
13. Plan your trip over valleys as much as possible.
14. Carry a good survival kit and familiarize yourself with its use.

LANDINGS

Safety of flight dictates that each pilot transmit "in the blind" on 122.9 whenever approaching or departing a non-unicom equipped airport to advise other aircraft of your intentions. You can not always maintain constant visual contact with the runway at many of the back country strips and acceptance of this practice will assure an added safety factor when using these facilities. These airstrips receive considerable use by aircraft at certain times. Before flying into this territory, practice short field power on landings. Be sure you can land your aircraft on a fifty foot spot not once in a while but every time.

1. Land upstream (uphill) whenever possible, but remember that many mountain airstrips are "one way" only. Wet grass reduces braking action and most mountain airstrips are short.
2. Control your rate of descent with power. Maintain a stable airspeed (generally the short field approach speed listed in your aircraft operator's manual).
3. Before beginning your approach, circle your intended destination to ensure that the field is clear of other aircraft, livestock, wildlife, etc.
4. Abort your approach if the air becomes turbulent on your let-down. Avoid low altitude maneuvering.

TAKEOFF

Each takeoff requires careful analysis of all factors that will affect the takeoff. Aircraft performance, runway condition (soft, rough, height of vegetation) — all have negative effects on takeoff performance. Density altitude (temperature, field elevation, humidity — again these factors (as they get "higher") are all negative as far as aircraft performance is concerned. Engine horsepower is also affected by density altitude — adjust mixture control for maximum power. CAUTION: select a spot free of rocks for engine running. You will probably be unable to attain the performance levels indicated in your aircraft operator's handbook. It is best to be conservative as opposed to being too optimistic when considering takeoff performance. It is recommended that, during summer months, takeoffs and landings be made during early morning hours and during early evening hours when the air is least turbulent.

1. CHECK DENSITY ALTITUDE! If takeoff performance for your aircraft is questionable, wait until evening or early morning when conditions are more favorable.
2. Remember that tall grass of soft/tough field conditions can add considerably to your takeoff distances.
3. Choose a go/no-go point on the runway. If not airborne at that point, abort the takeoff and wait for better conditions.
4. Takeoff downstream (downhill) whenever possible.

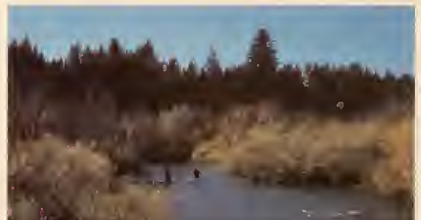
TAXI

A WORD OF CAUTION! Taxing off of established runways at backcountry airstrips requires considerable caution. There are hazards such as gopher holes, depressions, and rocks which may be hidden by tall grass. If unsure of surface condition, shut your engine down and push the aircraft to a parking spot well off of the runway. A prop strike would "ruin your whole day."

COMMERCIAL BROADCAST STATIONS IN MONTANA

Airport Location	Radio Call	Freq. (khz)	Hours of Operation		Power (kw) Day	Night
Anaconda	KANA	580	0600	Sunset	1.00	.50
Baker	KFLN	900	0600	Sunset	5.00	.37
Belgrade	KGVW	630	0600	Sunset	1.00	.25
Billings	KBMY	1240	24 Hours		1.00	.25
Billings	KGHL	790	24 Hours (Dir. Ant.; Natel (Sun) 2400 to 0530 shut down		5.00	
Billings	KOOK	970	24 Hours (Dir. Ant.; Natel (Sun) 2400 to 0600 shut down		5.00	
Billings	KOYN	910	0600	Sunset	1.00	.50
Billings	KURL	720	0600	Sunset	.50	.17
Bozeman	KBMN	1230	0530	2400	1.00	
Bozeman	KXLL	1450	24 Hours (Sun) 2400 to 0530 shut down		1.00	
Bozeman	KBOZ	1090	24 Hours		5.00	
Butte	KBOW	550	24 Hours (Dir. Ant. Natel (Sun) 2400 to 0600 shut down		5.00	1.00
Butte	KXLF	1370	0600	2400	5.00	
Deer Lodge	KDRG	1400	0630	2200	1.00	
Dillon	KDBM	1490	0800 (Sun) 0600	2200 2200	1.00	
Forsyth	KIKC	1250	0700 (Sun) 0600	1900 Sunset	5.00	
Glasgow	KLTZ	1240	0557	2315	1.00	
Glendive	KGLE	590	0657 (Sun) 0500	2215 Sunset	.50	
Glendive	KXGN	1400	0600	2200	1.00	
Great Falls	KEIN	1310	0800 (Sun) 24 Hours (Sun) 2400 to 0500 shut down	2259	5.00	1.00
Great Falls	KMON	560	24 Hours (Dir. Ant. Natel (Sun) 2330 to 0500 shut down		5.00	
Great Falls	KODI	1450	0530 0600 (Sun)	0100 2400	1.00	
Great Falls	KARR	1400	0600	2400	1.00	
Hamilton	KLYQ	1240	0600	Sunset	1.00	
Hardin	KYTY	1230	0600	2200	1.00	
Havre	KOJN	610	0800 (Sun) 0500	2200 2400	1.00	.16
Helena	KBLL	1240	0600 (Sun) 0559	2400 2415	(Dir. Ant.) 1.00	
Helena	KCAP	1340	0659 (Sun) 24 Hours (Sun) 1200 to 0600 shut down	2315	1.00	
Helena	KMTX	550	0500	0100	5.00	
Kalispell	KGEZ	600	0500	2400	1.00 (Dir. Ant.)	
Kalispell	KOFI	1180	0600	2400 (Dir. Ant. after sunset)	10.00	
Lewistown	KXLO	1230	0600	2200	1.00	
Libby	KLCB	1230	0715 (Sun) 0600	1900 2200	1.00	
Livingston	KPRK	1340	0600	2300	1.00	
Miles City	KATL	770	0730 (Sun) 0530	1800 2300	1.00	
Missoula	KGVO	1290	0500	0100	5.00	
Missoula	KYLT	1340	0700 (Sun) 24 Hours	2400 (Dir. Ant. Natel	1.00	
Missoula	KGNZ	1450	24 Hours		1.00	
Missoula	KYSS	930	0600	Sunset	5.00	
Phillipsburg	KATQ	1070	0600	1800	1.00	
Polson	KERR	1070	0600	0100	2.50 (Dir. Ant. Natel	
Red Lodge	KRBN	1450	0600	2200	1.00	
Shelby	KSEN	1150	0600 (Sun) 0600	2315 2250	5.00 (Dir. Ant. Natel	
Sidney	KGCX	1480	0500	2215	5.00 (Dir. Ant. Natel	
West Yellow	KWYS	920	0600	Sunset	1.00	.50
Whitefish	KJJR	880	24 Hours		10.00	.25
Wolf Point	KSKR	1450	0600	2400	1.00	
	KVCK	1450	0600 (Sun)	2200 2000	1.00	

* Before Sunrise



Tom Warren

Mike Logan

Dave Brooks

Montana Travel Promotion

Spring

Spring arrives late in the northern Rockies, providing excellent skiing conditions through April, long after more southerly slopes are closed.

Spring is a time of rebirth all across the open range of central and eastern Montana with lush new grass, carpets of wildflowers and fresh stock on the ranches. Dozens of dude and guest ranches offer vacations in true western style nearly any time of the year. They range from small, intimate family operations to deluxe spreads with swimming pools, tennis courts, golf and other amenities. Many working ranches invite guests to join roundups, branding and day-to-day operations.

Spring brings fishing with most Montana trout waters opening by mid-May. Fine mountain streams, lakes and swift rivers supply the most challenging and satisfying angling in the country. By June many of these same streams offer thrilling white water float trips; two—the Missouri and Yellowstone—have organized raft excursions.

Spring is also a good time to sample some of the state's rich historical heritage. From the Custer Battlefield and Lewis and Clark Expedition sites to Montana's 90 ghost towns, the past is just waiting to be rediscovered.

Montana Travel Promotion

Winter

Pack your parka, toss in your skis and take off for Montana this winter. Beneath your wing-tips you'll find a vast white world of powder snow just waiting to be explored. Best of all, it's still uncrowded and big on western hospitality.

With 27 Rocky Mountain ski areas to choose from you can cruise down the gentler novice or intermediate slopes or "hot dog" it down the heart stoppers. If you're looking for elegant resorts, we've got them—complete with condominiums, heated pools, gourmet restaurants and all the trimmings.

Montana has over 60 paved and serviced airports, 15 of them will full commercial facilities. Most winter resorts furnish transportation from your let-down right to the lodge.

If cross-country skiing or snowshoeing appeal, select one of the back country resorts and break your own trails. Or perhaps you'd prefer just to relax by a big, crackling Montana pine fire.

Snowmobiling is popular, too, add many resorts offer guided winter tours. Yellowstone Park has outstanding opportunities for viewing and photographing wildlife in winter's pristine environment.

Montana Travel Promotion

Bill Howell

Mike Logan

Mike Logan

Summer

Spread your wings and fly. The clear, blue sky of Montana invites you.

Glacier National Park, America's most spectacular, beautiful mountain park of more than a million acres of unspoiled scenery, 200 sparkling lakes, 1,000 miles of awesome peaks, alpine meadows, and wildlife. 900 miles of park country is laced with dozens of well groomed campsites as well as luxury accommodations.

Visit Yellowstone, then fly to western Montana where range upon range of mountains invite you to explore the wilds on foot or by horseback. Relax in a mountain lake or strike out on your own or join one of the many licensed outfitters in the area.

Dozens of state parks and recreation areas provide the finest in water sports (including sailing regattas), cave exploring, rock hounding and excellent fishing throughout the summer.

Summer is also rodeo time with plenty of bronc riding, calf roping and bull dogging action all across the state.

Ever been to an Indian reservation? Montana has seven to go to. It's something that all Indian rodeos to colorful tradi-onal ceremonials.

Montana Travel Promotion

Montana Travel Promotion

Fall

Autumn is the time to really savor Montana. Days are still warm, nights have turned crisp. Mountainsides are splashed with reds and golds, out on the ranges the grass has turned to yellow. The smell of wood smoke lingers in the quiet air as the folks grow colder trout are coming to bite again. Crowds are gone from the parks and early snows on the peaks have driven wildlife down within easy viewing range.

Whether you hunt with gun or camera, Montana offers one of the nation's greatest reserves of wildlife. Bear, elk, deer, antelope, moose, sheep, and goats are here in abundance. Flyways host thousands of geese, ducks and other waterfowl. Grouse and pheasant still roam at will. Lake McDonald, in Glacier National Park, attracts unusual numbers of Bald Eagles from mid-October through November.

Rich in mineral resources, the state is increasingly popular for gold panning and rock hounding as well. Mountain streams often yield enough "color" to take home a souvenir sapphire, garnets, rubies, agates and petrified wood mixed rockhounds.

And, when it comes to unusual fall events, where else can you attend a buffalo roundup?

MONTANA VFR AERONAUTICAL CHART

EDMONTON FIR

MOOSE JAW CONTROLLED AIRSPACE NOT IN USE WHEN MOOSE JAW CONTROL ZONE IS NOT IN EFFECT

WILLISTON MOA
4000 TO BUT NOT INCL FL 180
HOURS OF USE INTERMITTENT
CONTACT HAVRE FSS

HAYS MOA
10M AND ABOVE

AERONAUTICAL SYMBOLS

AERODROM

NAVAID

MISCELLANEOUS

CAUTION

NUMEROUS HAZARDOUS POWER LINE CROSSINGS IN WESTERN MONTANA

(Most unlighted and unmarked)